INDEX

α-Aminoacids, esters of (Johnson and Ticknor), 303.

ABBOT, H. L. Hydrology of the Isthmus of Panama, 41.

ABEL, J. J., and PINCOFFS, M. C. On the Presence of Albumoses in Extracts of the Posterior Lobe of the Hypophysis Cerebri, 507.

Absorption effects in the spiral nebulae (Curtis), 678.

Action, reaction and interaction in evolution (Osborn), 7.

Albumoses in extracts of the posterior lobe of the hypophysis cerebri (Abel and Pincoffs), 507.

Alcoholized rats, growth and fecundity of (MacDowell and Vicari), 577.

Alcyonaria and Pacific coral reefs (Cary), 545.

Alkalinity of the tropical Pacific (Mayer), 548.

ALLIS, JR., E. P. The Lips and the Nasal Apertures in the Gnathostome Fishes, and their Homologues in the Higher Vertebrates, 73.

ALWAY, F. J., and MCDOLE, G. R. The Importance of the Water Contained in the Deeper Portions of the Subsoil, 257.

Analyses of Bawéan lavas (Iddings and Morley), 105.

ANDERSON, R. J., and LUSK, G. The Interrelation between Diet and Body Condition and the Energy Production during Mechanical Work in the Dog, 386.

Andes, Bolivian, age of (Berry), 283.

ANSLOW, G. A., and HOWELL, J. T. The Triplet Series of Radium, 409.

Anthoceros, growth of isolated sporophytes of (Campbell), 494.

Ants, phylogenetic development (Wheeler), 109.

Aortic cell clusters in vertebrate embryos (Jordan), 149.

Apex of solar motion (Perrine), 38.

Appetites and aversions as constituents of instincts (Craig) 685.

ARONBERG, L., see Harkins, W. D., 710.

Atlantis and the permanency of the North Atlantic Ocean bottom (Schuchert), 65.

Atolls, structure of high-standing (Davis), 473.

Atom, electrons in (Harkins and Aronberg), 710.

Auroras, inferences concerning (Thomson), 1, 222.

Axes of symmetry in globular clusters (Pease and Shapley), 96.

BABCOCK, H. D., see St. John, C. E., 505.

Bajada belts, terracing of (Keyes), 33.

BARNETT, S. J. The Magnetization of Iron, Nickel, and Cobalt by Rotation and the Nature of the Magnetic Molecule, 178.

BARUS, C. Refractivity Determined Irrespective of Form, by Displacement Interferometry, 117.

——. Displacement Interferometry in Connection with U-Tubes, 334.

——. Transverse Displacement Interferometry, 360.

——. The Measurement of Small Angles by Displacement Interferometry, 412.

——. Note on Complementary Fresnellian Fringes, 432.

——. The Displacement Interferometry of Long Distances, 436.

——. Theoretical Relations in the Interferometry of Small Angles, 563.

——. The Interferometry of Small Angles, etc. Methods by Direct and Reversed Superposed Spectra, 665.

——. Note on Interfermometer Methods of Measuring the Elastics of Small Bodies, 693.

BAUMBERGER, J. P. The Food of Drosophila Melanogaster Meigen, 122.

BERG, W. N. The Transformation of Pseudoglobulin into Euglobulin, 261.

BERRY, E. W. The Age of the Bolivian Andes, 283.

——. The Classification of Vascular Plants, 330.

Bilinear and N-linear functionals (Fischer), 640.

BIRKHOFF, G. D. Dynamical Systems with Two Degrees of Freedom, 314.

——. A Theorem on Series of Orthogonal Functions with an Application to Sturm-Liouville Series, 656.

Black body radiation (Coblentz), 504.

BLAKESLEE, A. F., see Harris, J. A., 237, 565.

BLISS, G. A. A Necessary and Sufficient Condition for the Existence of a Stieltjes Integral, 633.

Bolivian Andes, age of (Berry), 283.

BOWIE, W. The Gravimetric Survey of the United States, 171.

Brachyura, coloration in (Longley), 609.

BRIDGES, C. B., see Metz, C. W., 673.

BRIDGMAN, P. W. The Resistance of Metals under Pressure, 10.

BRINSMADE, J. B., and KEMBLE, E. C. The Occurrence of Harmonics in the Infra-Red Absorption Spectra of Diatomic Gases, 420.

BROCKETT, P. Scientific Publications from Germany, 717.
BRUES, C. T. Adult Hymenopterous Parasites attached to the Body of their Host, 136.
BUCHER, W. H. Large Current-Ripples as Indicators of Paleogeography, 285.
Bunsen-Roscoe law for heliogropic reactions (Loeb and Northrop), 539.
BURDICK, C. L., and ELLIS, J. H. The Crystal Structure of Chalcopyrite determined by X Rays, 644.

Calorimetric bomb (Richards and Davis), 51.
CAMPBELL, D. H. Growth of Isolated Sporophytes of Anthoceros, 494.
Cancer and crowngalls (Smith), 312.
Carbon monoxide and dioxide, sulphuf, and sulphuroxide (Ferguson), 371.
CARY, L. R. The Part Played by Alcyonaria in the Formation of Some Pacific Coral Reefs, 545.
Cassiopea, conduction in (McClendon), 703.
Cassiopea, metabolism of (McClendon), 715.
Cassiopea, Xamachana, composition of (Hatai), 22.
Cayleyan curve of the quartic (Cohen), 447.
Cell clusters, aortic (Jordan), 149.
Chalcopyrite, structure determined by X rays (Burdick and Ellis), 644.
CHITTENDEN, R. H., and UNDERHILL, F. P. The Production in Dogs of a Pathological Condition which closely Resembles Human Pellagra, 195.
CLARK, H., see Webster, D. L., 181.
CLARKE, F. W., and KAMM, R. M. New Analyses of Echinoderms, 401.
Clusters, globular (Pease and Shapley), 96.
Coals, petrified and origin of (Jeffrey). 206.
COBLENTZ, W. W. Note on the Coefficient of Total Radiation of a Uniformly Heated Enclosure, 504.
COHEN, T. The Cayleyan Curve of the Quartic, 447.
COLE, F. N., CUMMINGS, L. D., and WHITE, H. S. The Complete Enumeration of Triad Systems in 15 Elements, 197.
COLLINS, G. N. Hybrids of Zea Tunicata and Zea Ramosa, 345.
Color and luminosity in Messier 11 (Shapley), 28.
Coloration in Brachyura (Longley), 609.
Combustion, improvements in calorimetric (Richards and Davis), 50.
Comet, Pons-Winnecke's (Olivier), 47.
Concentration of the stars toward Galaxy, (Seares), 558.
Condensation and evaporation of gas molecules (Langmuir), 141.
Conductivity of metals (Hall), 163.
Congruences and surface theory (Green), 587.
CONKLIN, E. G. The Share of Egg and Sperm in Heredity, 101.
Continuity, New equation of (Keyes), 323.
Coral reefs (Foye), 305.
Coral Reefs of Tutuila (Mayer), 522.
Coral reefs, Pacific (Cary), 545.
Corn and sorghums, water and dry matter in leaves (Miller), 427,
CRAIG, W. Appetites and Aversions as Constituents of Instincts, 685.
Crowngalls, chemically induced (Smith), 312,
CROZIER, W. J. Evidence of Assortive Mating in a Nudibranch, 519.
Crystal structure of chalcopyrite determined by X rays (Burdick and Ellis), 644.
Crystal structure of magnesium (Hull), 470.
Crystals, pressure phenomena accompanying the growth (Taber), 297.
CUMMINGS, L. D., see Cole, F. N., 197.
Current-Ripples as indicators of paleogeography (Bucher), 285.
CURTIS, H. D. Absorption Effects in the Spiral Nebulae, 678.
Curves, conjugate systems of (Eisenhart), 453.

DALY, R. A. Low-Temperature Formation of Alkaline Feldspars in Limestone, 659.
DAVENPORT, C. B. On Utilizing the Facts of Juvenile Promise and Family History in Awarding Naval Commissions to Untried Men, 404.
DAVIS, B. M. A Criticism of the Evidence for the Mutation Theory of De Vries from the Behavior of Species of Oenothera in Crosses and in Selfed Lines, 704.
DAVIS, H. S., see Richards, T. W., 50.
DAVIS, W. M. The Structure of High-Standing Atolls, 473.
——. The Isostatic Subsidence of Volcanic Islands, 649.
——. Sublacustrine Glacial Erosion in Montana, 696.
Death from high temperature (Mayer), 626.
Death, respiration after (Haas), 688.
Deformation of an N-cell (Veblen), 654.
Design-sequence from New Mexico (Kidder), 369.
De Vries, theory of (Davis), 704.
Diatomic gases, absorption spectra (Brinsmade and Kemble), 420.
Diet, body condition, energy production during mechanical work in the dog (Anderson and Lusk), 386.
Differentiation of the central nervous system in invertebrates (Moore), 598.
Diophantine approximation: The series $\Sigma e(\lambda_n)$ and the distribution of the points $(\lambda_n \alpha)$ (Hardy and Littlewood), 84.

Dog, diet, body condition, energy production (Anderson and Lusk), 386.
Dogs, production of pellagra in (Chittenden and Underhill), 195.
Drosophila, effect of temperature on linkage (Plough), 553; Strength of linkage (Sturtevant), 555.
Drosophila, frequency of germinal changes (MacDowell), 291.
Drosophila melanogaster meigen, food of (Baumberger), 122.
Drosophila, mutant races in (Metz and Bridges), 673.
Drosophila, oenothera-like case in (Muller), 619.
Drosophila, reverse mutations in (May), 544.
Duration of life in Metazoa (Loeb and Northrop), 382.
Dynamical systems with two degrees of freedom (Birkhoff), 314.

Echinoderms, analyses of (Clarke and Kamm), 401.
Egg and Sperm in heredity (Conklin), 101.
Egg production of the domestic fowl (Harris, Blakeslee and Kirkpatrick), 565.
Einstein relativity-gravitational effect in the sun (St. John), 450
EISENHART, L. P. Triads of Transformations of Conjugate Systems of Curves, 453.
——. Transformations of Applicable Conjugate Nets of Curves on Surfaces, 637.
Elastico-Viscous flow, laws of (Michelson), 319.
Electrolytes, synergetic action of (Raber), 682.
Electron charge and related constants (Millikan), 231.
Electron, electric carrier in metals (Tolman and Stewart), 58.
Electron emission, Wehnelt cathodes (Wilson), 426.
Electrons, chemical function of (Noyes), 356.
Electrons in atom (Harkins and Aronberg), 710.
ELLIS, J. H., see Burdick, C. L., 644.
Embryonic atresia of the esophagus (Jordan), 264.
Embryos, aortic cell clusters in vertebrate (Jordan), 149.
Energy production in the dog (Anderson and Lusk), 386.
Enumeration of triad systems in 15 elements (Cole, Cummings and White), 197.
Epinephelus striatus Bloch, rheotropism of (Jordan), 157.
Equation of state (Keyes), 323.
Equilibrium between carbon monoxide, carbon dioxide, sulphur dioxide, and free sulhpur (Ferguson), 371.
Esophagus, embryonic atresia of (Jordan) 264.
Esters of α-Aminoacids and their isothiocyanates (Johnson and Ticknor), 303.
Euglobulin, transformation of pseudoglobulin into (Berg), 261.
Evaporation of gas molecules (Langmuir), 141.
Evolution, action and reaction and interaction in (Osborn), 7.
Exposure-ratios to determine stellar colors (Seares), 29.

Family history of naval officers (Davenport), 404.
Feldspars in limestone, alkaline (Daly), 659.
FELT, E. P. Distribution of Gall Midges, 349.
FENNEMAN, N. M. Physiographic Subdivision of the United States, 17.
FERGUSON, J. B. The Equilibrium between Carbon Monoxide, Carbon Dioxide, Sulfur Dioxide and Free Sulphur, 371.
Fertility and age in the domestic fowl (Pearl), 354.
FEWKES, J. W. The Mesa Verde Types of Pueblos, 497.
Fiji Islands, geology of (Foye), 305.
FISCHER, C. A. On Bilinear and N-Linear Functionals, 640.
Fishes, gnathostome (Allis), 73.
Fitting of parabolas (Miner), 91.
FLEXNER, S. Mechanisms that Defend the Body from Poliomyelitic Infection, (A) External or Extra-Nervous, (B) Internal or Nervous, 416.
Food of drosophila melanogaster meigen (Baumberger), 122.
FORBES, A., and RAPPLEYE, W. C. The Rate of Discharge of Central Neurones, 12.
Formicidae, development of castes in (Wheeler), 109.
Fowl, body pigmentation and egg production (Harris, Blakeslee and Warner), 237.
Fowl, egg production (Harris, Blakeslee and Kirkpatrick), 565.
Fowl, fertility and age in (Pearl), 354.
FOYE, W. G. The Geology of the Fiji Islands, 305.
Frequency of colors in galactic clouds (Shapley), 26.
Fresnellian fringes, complementary (Barus), 432.
Frog, regeneration in (Zeleny), 211.
Functionals, bilinear and N-linear (Fischer), 640.

Galactic plane, distribution of stars with respect to (Seares), 217.
Gall midges, distribution of (Felt), 349.
GARREY, W. E. Proof of the Muscle Tension Theory of Heliotropism, 602.

Gas molecules, condensation and evaporation of (Langmuir), 141.
Germ cells in the loggerhead turtle embryo (Jordan), 271.
Glacial erosion, Montana (Davis), 696.
GOLDFARB, A. J. Variability of Germ Cells of Sea Urchins, 241.
GOMBERG, M., and SCHOEPFLE, C. S. The Molecular Weights of the Triarylmethyls, 457.
Gravimetric survey of the United States (Bowie), 171..
Gravitational theory of Einstein (St. John), 450.
GREEN, G. M. On the General Theory of Curved Surfaces and Rectilinear Congruences, 587.
Growth and fecundity of alcoholized rats (MacDowell and Vicari), 577.
Growth and reproduction under rations balanced from restricted sources (Hart and others), 374.

HAAS, A. R. C. Rapid Respiration after Death, 688.
HADLEY, S. E., see Johnson, T. B., 418.
HALL, E. H. A possible Function of the Ions in the Electric Conductivity of Metals, 163.
HALL, N. F., see Richards, T. W., 339.
HARDY, G. H., and LITTLEWOOD, J. E. Some Problems of Diophantine Approximation: The Series $\Sigma e(\lambda_n)$ and the Distribution of the Points $(\lambda_n \alpha)$, 84.
HARKINS, W. D. and ARONBERG, L. The Spectra of Isotopes and the Vibration of Electrons in the Atom, 710.
HARRIS, J. A., BLAKESLEE, A. F., and WARNER, D. E. Body Pigmentation and Egg Production in the Fowl, 237.
HARRIS, J. A., BLAKESLEE, A. F., and KIRKPATRICK, W. F. Inter-Periodic Correlation in the Egg Production of the Domestic Fowl, 565.
HARRISON, R. G. Transplantation of Limbs, 245.
HART, E. B., MCCOLLUM, E. V., STEENBOCK, H., and HUMPHREY, G. C. Physiological Effect on Growth and Reproduction of Rations balanced from Restricted Sources, 374.
HARVEY, E. B A Physiological Study of Noctiluca, with Special Reference to Light Production, Anaesthesia and Specific Gravity, 15.
HATAI, S. On the Composition of the Medusa, Cassiopea Xamachana and the Changes in it after Starvation, 22.
Heliotropic animals as photometers (Loeb and Northrop), 539.
Heliotropism, muscle tension theory of (Garrey), 602.
Helium, stark effect in (Nyquist), 399.
Heredity, share of egg and sperm in (Conklin), 101.
Heterosis and linked factors (Jones), 310.
Horned toad, reactions of the melanophores of (Redfield), 202, 204.
HOWELL, J. T., see Anslow, G. A., 409.
HULL, A. W. The Crystal Structure of Magnesium, 470.
Human energy, temperature optima for (Huntington), 127.
HUMPHREY, G. C., see Hart, E. B., 374.
HUNTINGTON, E. Temperature Optima for Human Energy 127.
Hydrogen, specific heat (Shields), 502.
Hydroids, responses to gravity (Parker), 72.
Hydrology of the Isthmus of Panama (Abbot), 41.
Hydrolysis of the simplest secondary Nucleoside (Johnson and Hadley), 418.
Hymenopterous parasites (Brues), 136.
Hypophysis cerebri, extracts of (Abel and Pincoffs), 507

IDDINGS, J. P., and MORLEY, E. W. A Contribution to the Petrography of the Island of Bawéan, Netherlands Indies, 105.
——. A Contribution to the Petrography of Southern Celebes, 592.
Indicators, vasectomized male mice as (Little), 186.
Infantile paralysis (Flexner), 416.
Infra-red absorption spectra of diatomic gases (Brinsmade and Kemble), 420.
Instincts, constituents of (Craig), 685.
Interferometry (Barus), 116, 334, 360, 412, 436, 563, 665, 693.
International standard of electric current (Rosa and Vinal), 59.
Invertebrates, chemical differentiation of the central nervous system (Moore), 598.
Ionization of strong electrolytes in dilute solutions (Washburn), 569.
Ions, and electric conductivity of metals (Hall), 163.
Iron, nickel, and cobalt, magnetization of (Barnett), 178.
Island of Bawéan, petrography of (Iddings and Morley), 105.
Isostasy in United States (Bowie), 171.
Isostatic subsidence of volcanic islands (Davis), 649.
Isothiocyanates, transforming of esters of α-aminoacids into (Johnson and Ticknor), 303.
Isotopes, spectra of (Harkins and Aronberg), 710.
Isotopic forms of lead (Richards and Hall), 339.
Isthmus of Panama, hydrology of (Abbot), 41.

Jamin's interferometer (Barus), 337.
JEFFREY, E. C. Petrified Coals and their Bearing on the Problem of the Origin of Coals, 206.

JOHNS, C. O., and JONES, D. B. The Proteins of the Peanut, Arachis Hypogaea, 365.
JOHNSON, T. B., and HADLEY, S. E. The Behavior on Hydrolysis of the Simplest Secondary Nucleoside on Thymine, 418.
JOHNSON, T. B., and TICKNOR, A. A. A New Method of Transforming Esters of α-Aminoacids into their Corresponding isothiocyanates, 303.
JONES, D. B., see Johns, C. O., 365.
JONES, D. F. Dominance of Linked Factors as a Means of Accounting for Heterosis, 310.
JORDAN, H. Rheotropism of Epinephelus Striatus Bloch, 157.
JORDAN, H. E. Aortic Cell Clusters in Vertebrate Embryos, 149.
——. A Case of Normal Embryonic Atresia of the Esophagus, 264.
——. The History of the Primordial Germ Cells in the Loggerhead Turtle Embryo, 271.
Jupiter, ninth satellite of (Nicholson), 147.

KAMM, R. M., see Clarke, F. W., 401.
KEMBLE, E. C., see Brinsmade, J. B., 420.
KEYES, C. Terracing of Bajada Belts, 33.
KEYES, F. G. A New Equation of Continuity, 323.
KIDDER, A. V. A Design-Sequence from New Mexico, 369.
Kinetic hypothesis, function of electrons in the chemical combination (Noyes) 356.
KIRKPATRICK, W. F., see Harris, J. A., 565.

LANGMUIR, I. The Condensation and Evaporation of Gas Molecules, 141.
——. The Shapes of Group Molecules Forming the Surfaces of Liquids, 251.
Lead, isotopic forms of (Richards and Hall), 339.
LILLIE, F. R. Sex-Determination and Sex-Differentiation in Mammals, 464.
Limbs, transplantation of (Harrison), 245.
Linkage in Drosophila (Plough), 553; (Sturtevant), 555.
Linked factors and heterosis (Jones), 310.
LIPKA, J. Natural and Isogonal Families of Curves on a Surface, 78.
Lips and the nasal aperture in the gnathostome fishes (Allis), 73.
Liquid surfaces, shape of molecules (Langmuir), 251.
LITTLE, C. C. The Use of Vasectomized Male Mice as Indicators, 186.
LITTLEWOOD, J. E., see Hardy, G. H., 84.
Locomotion in Planarians (Stringer), 691.
LOEB, J., and NORTHROP, J. H. What Determines the Duration of Life in Metazoa? 382.
——. Heliotropic Animals as Photometers on the Basis of the Validity of the Bunsen-Roscoe Law for Heliotropic Reactions, 539.
LONGLEY, W. H. Changeable Coloration in Brachyura, 609.
Low-temperature formation of alkaline feldspars in limestone (Daly), 659.
LUSK, G., see Anderson, R. J., 386.

MCCLENDON, J. F. The Equilibrium of Tortugas Sea Water with Calcite and Aragonite, 612.
——. Diurnal Changes in the Sea at Tortugas, Florida, 692.
——. The Effect of Stretching on the Rate of Conduction in the Neuro-Muscular Network in Cassiopea, 703.
——. The Effect of Oxygen Tension on the Metabolism of Cassiopea, 715.
MCCOLLUM, E. V., see Hart, E. B., 374.
MCDOLE, G. R., see Alway, F. J., 257.
MACDOWELL, E. C. The Bearing of Selection Experiments with Drosophila upon the Frequency of Germinal Changes, 291.
MACDOWELL, E. C., and VICARI, E. M. On the Growth and Fecundity of Alcoholized Rats, 577.
Magnesium, crystal structure (Hull), 470.
Magnetization of iron, nickel, and cobalt by rotation (Barnett), 178.
Magnitudes in star clusters (Shapley), 25, 267, 276, 479.
Magnitudes of stars in the selected areas of Kapteyn (Seares), 188.
Mammals, sex determination in (Lillie), 464.
Mammoth Cave, archaeology of (Nelson), 192.
Map of the United States, physiographic (Fenneman), 17.
Mass of the electric carrier in copper, silver, and aluminium (Tolman and Stewart), 58.
Mating, assortive (Crozier), 519.
MAY, H. G. The Appearance of Reverse Mutations in the Bar-Eyed Race of *Drosophila* under Experimental Control, 544.
MAYER, A. G. Coral Reefs of Tutuila, with Reference to the Murray-Agassiz Solution Theory, 522..
——. Observations Upon the Alkalinity of the Surface Water of the Tropical Pacific, 548.
——. On the Non-Existence of Nerous Shell-Shock in Fishes and Marine Invertebrates, 597.
——. Is Death from High Temperature Due to the Accumulation of Acid in the Tissues? 626.
Melanophores of the horned toad, reactions of (Redfield), 202, 204.
Mesa Verde types of Pueblos (Fewkes), 497.
Metals, conductivity (Hall), 163.
Metals, mass of electric carrier in (Tolman and Stewart), 58.
Metals, resistance under pressure (Bridgman), 10.

Metazoa, life in (Loeb and Northrop), 382.
Meteor system of Pons-Winnecke's comet (Olivier), 47.
METZ, C. W., and BRIDGES, C. B. Incompatibility of Mutant Races in Drosophila, 673.
MICHELSON, A. A. The Laws of Elastico-Viscous Flow, 319.
MILLER, E. C. Daily Variation of Water and Dry Matter in the Leaves of Corn and the Sorghums, 427.
MILLIKAN, R. A. A Re-Determination of the Value of the Electron and of Related Constants, 231.
MINER, J. R. A Note on the Fitting of Parabolas, 91.
Molecule, nature of the magnetic (Barnett), 178.
Molecules, shape of (Langmuir), 251.
Montana, sublacustrine glacial erosion in (Davis), 696.
MOORE, A. R. Chemical Differentiation of the Central Nervous System in Invertebrates, 598.
MORLEY, E. W., see Iddings, J. P., 105, 592.
Moseley's law for X-ray spectra (Uhler), 88.
MULLER, H. J. An Oenothera-Like Case in Drosophila, 619.
Murray-Agassiz solution theory (Mayer), 522.
Muscle tension theory of heliotropism (Garrey), 602.
Mutation theory of De Vries (Davis), 704.
Mutations in *Drosophila* (May), 544.

NATIONAL RESEARCH COUNCIL, Research Committees in Educational Institutions, 223.
——. Central Committees on Research, 226.
——. Reports of Meetings of the Executive Committee, 227, 438, 530, 582, 628, 733.
——. Membership of the Committees of the Council, 317.
——. Joint Meeting of the Executive, Military, and Engineering Committees, 443.
——. First Meeting of the Engineering Committee, 443.
——. Report of the Astronomy Committee, 444.
——. Suggestions Relating to the New National Army by the Anthropology Committee of the National Research Council, 526.
——. First Report of Committee on Botany, 529.
——. Minutes of the Meeting of the National Research Council held on Thursday, April 19, 1917, in Rooms 42 and 43 of the United States National Museum, Washington, D. C., 580.
——. Scientific Publications from Germany, 717.
——. Report of the Geology and Paleontology Committee, 721.
——. First Report of Committee on Zoology, 724.
——. The Scope and Work of the Botanical Raw Products Committee, 731.
Natural and isogonal families of curves on a surface (Lipka), 78.
Naval commissions to untried men, awarding of (Davenport), 404.
N-cell, deformation of (Veblen), 654.
Nebula, N. G. C. 7662, parallax of (van Maanen), 133.
Nebulae, spiral (Curtis), 678.
NELSON, N. C. Archaeology of Mammoth Cave and Vicinity: A Preliminary Report, 192.
Neon, Stark effect in (Nyquist), 399.
Nets of curves on surfaces (Eisenhart), 637.
Neurones, rate of discharge of central (Forbes and Rappleye), 12.
New Mexico, design-sequence from (Kidder), 369.
NICHOLS, E. L. New Data on the Phosphorescence of Certain Sulphides, 199.
NICHOLSON, S. B. The Ninth Satellite of Jupiter, 147.
Ninth satellite of Jupiter (Nicholson), 147.
Noctiluca, physiological study of (Harvey), 15.
North Atlantic Ocean bottom, Atlantis and the permanency of (Schuchert), 65.
NORTHROP, J. H., see Loeb, J., 382, 539.
Notices of Biographical Memoirs, 537.
NOYES, W. A. A Kinetic Hypothesis to Explain the Function of Electrons in the Chemical Combination of Atoms, 356.
Nucleoside transformations (Jonhson and Hadley), 418.
Nudibranch, assortive mating in (Crozier), 519.
NYQUIST, H. The Stark Effect in Helium and Neon, 399.

Oenothera, crosses and selfed lines (Davis), 704.
Oenothera-like case in Drosophila (Muller), 619.
OLIVIER, C. P. The Meteor System of Pons-Winnecke's Comet, 47.
Orbit of Jupiter's ninth satellite (Nicholson), 148.
Orthogonal functions, series of (Birkhoff), 655.
OSBORN, H. F. Application of the Laws of Action, Reaction and Interaction in Life Evolution, 7.

Pacific Ocean, alkalinity (Mayer), 548.
Paleogeography, indicators of (Bucher), 285.
Panama, hydrology of the Isthmus (Abbot). 41.
Parabolas, fitting of (Miner), 91

Parallax of planetary nebula N. G. C. 7662 (van Maanen), 133.
Parasites, adult hymenopterous (Brues), 136.
PARKER, G. H. The Responses of Hydroids to Gravity, 72.
Peanut, proteins of (Johns and Jones), 365.
PEARL, R. Fertility and Age in the Domestic Fowl, 354.
PEASE, F. G., and SHAPLEY, H. Axes of Symmetry in Globular Clusters, 96.
Pellagra, produced in dogs (Chittenden and Underhill), 195.
PERRINE, C. D. Relation of the Apex of Solar Motion to Proper Motion and on the Cause of the Differences of its Position from Radical Velocities and Proper Motions, 38.
——. Relation of Preferential Motion and of the Spectral-Class and Magnitude Velocity Progressions to Proper Motion, 491.
Petrography, Island of Bawéan, Netherlands Indies (Iddings and Morley), 105.
Petrography of Southern Celebes (Iddings Morley), 592.
Phosphorescence of certain sulphides (Nichols), 199.
Phylogenetic development of subapterous and apterous castes in the formicidae (Wheeler), 109.
Physiographic subdivision of the United States (Fenneman), 17.
Phytophthora, studies of the genus (Rosenbaum), 159.
Pigmentation and egg production in the fowl (Harris, Blakeslee and Warner), 237.
PINCOFFS, M. C., see Abel, J. J., 507.
Planarians, means of locomotion in (Stringer), 691.
Planck's *h* (Millikan), 231.
Platinum, X-rays of L series (Webster and Clark), 181.
Plato's Atlantis (Schuchert), 65.
PLOUGH, H. H. The Effect of Temperature on Linkage in the Second Chromosome of Drosophila, 553.
Polar stars, color of the standard (Seares), 29.
Poliomyelitic infection, mechanisms that defend the body from (Flexner), 416.
Pons-Winnecke's comet, meteor system of (Olivier), 47.
Pressure phenomena in growth of crystals (Taber), 297.
Pressure, resistance of metals under (Bridgman), 10.
Proteins of the peanut, arachis hypogaea (Johns and Jones), 365.
Pseudoglobulin, transformation of into euglobin (Berg), 261.
Publications from Germany, Scientific (Brockett), 717.
Publications of the Academy, 743.
Pueblos, Mesa Verde types of (Fewkes), 497.
Quartic, cayleyan curve (Cohen), 447.

RABER, O. L. The Synergetic Action of Electrolytes, 682.
Radiation of a uniformly heated enclosure (Coblentz), 504.
Radium, triplet series of (Anslow and Howell), 409.
RAPPLEYE, W. C., see Forbes, A., 12.
Rate of discharge of central neurones (Forbes and Rappleye), 12.
Rations, balanced, physiologidal effects (Hart and others), 374.
Rats, alcoholized (MacDowell and Vicari), 577.
RAYMOND, H. The Principal Axes of Stellar Motion, 485.
REDFIELD, A. C. The Reactions of the Melanophores of the Horned Toad, 202.
——. The Coördination of the Melanophore Reactions of the Horned Toad, 204.
Refractivity by displacement interferometry (Barus), 116.
Regeneration, rate of (Zeleny), 211.
Relativity gravitational effect of Einstein (St. John), 450.
Report of the Annual Meeting, 390.
Report of the Autumn Meeting, 753.
Resistance of metals under pressure (Bridgman), 10.
Respiration after death (Haas), 688.
Responses of hydroids to gravity (Parker), 72).
Rheotropism of epinephelus striatus Bloch (Jordan), 157.
RICHARDS, T. W., and DAVIS, H. S. Improvements in Calorimetric Combustion, and the Heat of Combustion of Toluene, 50.
RICHARDS, T. W., and HALL, N. F. Attempt to Separate the Isotopic Forms of Lead by Fractional Crystallization, 339.
ROSA, E. B., and VINAL, G. W. The Silver Voltameter as an International Standard for the Measurement of Electric Current, 59.
ROSENBAUM, J. Studies of the Genus Phytophthora, 159.

ST. JOHN, C. E. A Search for an Einstein Relativity-Gravitational Effect in the Sun, 450.
ST. JOHN, C. E. and BABCOCK, H. D. The Development of a Source for Standard Wave-lengths and the Importance of Their Fundamental Values, 505.
SCHOEPFLE, C. S., see Gomberg, M., 457.
SCHUCHERT, C. Atlantis and the Permanency of the North Atlantic Ocean Bottom, 65.
Sea urchins, variability of germ cells of (Goldfarb), 241.

SEARES, F. H. The Color of the Standard Polar Stars Determined by the Method of Exposure-Ratios, 29.
——. Photographic Magnitudes of Stars in the Selected Areas of Kapteyn, 188.
——. Preliminary Note on the Distribution of Stars with Respect to the Galactic Plane, 217.
——. Further Evidence on the Concentration of the Stars Toward the Galaxy, 558.
Selection experiments with drosophila (MacDowell), 291.
Sex determination and differentiation (Lillie), 464.
SHAPLEY, H. Studies of the Magnitudes in Star Clusters, IV. On the Color of Stars in the Galactic Clouds Surrounding Messier, 11, 25.
——. see Pease, F. G., 96.
——. Studies of Magnitudes in Star Clusters, V. Further Evidence of the Absence of Scattering of Light in Space, 267.
——. Studies of Magnitudes in Star Clusters, VI. The Relation of Blue Stars and Variables to Galactic Planes, 276.
——. Studies of Magnitude in Star Clusters, VII. A Method for the Determination of the Relative Distances of Globular Clusters, 479.
Shell-shock in fishes and marine invertebrates (Mayer), 597.
SHIELDS, M. C. A Determination of the Ratio of the Specific Heats of Hydrogen at 18° and −190°C., 502.
Silver voltameter as an international standard for the measurement of electric current (Rosa and Vinal), 59.
Small angles by displacement interferometry (Barus), 412.
SMITH, E. F. Chemically induced Crown-galls, 312.
Solar motion, apex of (Perrine), 38.
Solutions, ionization in (Washburn), 569.
Southern Celebes, petrography of (Iddings and Morley), 592.
Specific heats of hydrogen at 18° and −190°C. (Shields), 502.
Spectra, direct and reversed superposed (Barus), 665.
Spectra of isotopes (Harkins and Aronberg), 710.
Spectral-class and proper motion (Perrine), 491.
SPIER, L. Zuñi Chronology, 280.
Sporophytes of Anthoceros (Campbell), 494.
Star clusters, magnitudes in (Shapley), 25, 267, 276, 479.
Stark effect in helium and neon (Nyquist), 399.
Stars, concentration toward the Galaxy (Seares), 558.
Stars, distribution of (Seares), 217.
Starvation of cassiopea Xamachana (Hatai), 22.
STEENBOCK, H., see Hart, E. B., 374.
Stellar magnitudes in Kapteyn's selected areas (Seares), 188.
Stellar motion, principal axes of (Raymond), 485.
STEWART, T. D., see Tolman, R. C., 58.
Stieltjes integrals (Bliss), 633.
STRINGER, C. E. The Means of Locomotion in Planarians, 691.
Sturm-Liouville series (Birkhoff), 655.
STURTEVANT, A. H. Genetic Factors Affecting the Strength of Linkage in Drosophilia, 555.
Sublacustrine glacial erosion in Montana (Davis), 696.
Subsoil, water in (Alway and McDole), 257.
Sulphides, phosphorescence of (Nichols), 199.
Sulphur, sulphur dioxide, carbon monoxide and dioxide (Ferguson), 371.
Surface, natural and isogonal families of curves on (Lipka), 78.
Surfaces and rectilinear congruences (Green), 587.
Surfaces, curves on (Eisenhart), 637.

TABER, S. Pressure Phenomena Accompanying the Growth of Crystals, 297.
Temperature effect on linkage in Drosophila (Plough), 553.
Temperature optima for human energy (Huntington), 127.
Temperature rise in combustion (Richards and Davis), 53.
Terracing of Bajada belts (Keyes), 33.
Tetany, thymus in the production of (Uhlenhuth), 517.
THOMSON, E. Inferences concerning Auroras, 1, 222.
Thymus in the production of tetany (Uhlenhuth), 517.
TICKNOR, A. A., see Johnson, T. B., 303.
TOLMAN, R. C., and STEWART, T. D. The Mass of the Electric Carrier in Copper, Silver and Aluminium, 58.
Toluene, heat of combustion (Richards and Davis), 50.
Tortugas, changes in the sea (McClendon), 692.
Tortugas sea water (McClendon), 612.
Transplantation of limbs (Harrison), 245.
Triad systems (Cole, Cummings, and White), 197.
Triarylmethyls, molecular weights of (Gomberg and Schoepfle), 457.
Triplet series of radium (Anslow and Howell) 409.
Turtle embryo, primordial germ cells in (Jordan), 271.

UHLENHUTH, E. On the Rôle of the Thymus in the Production of Tetany, 517.
UHLER, H. S. On Moseley's Law for X-Ray Spectra, 88.
UNDERHILL, F. P., see Chittenden, R. H., 195.

United States, gravimetric survey of (Bowie), 171.
United States, physiographic subdivision of (Fenneman), 17.

van der Waal's equation modified (Keyes), 323.
VAN MAANEN, A. The Parallax of the Planetary Nebula N. G. C. 7662, 133.
Variability of germ cells of sea urchins (Goldfarb), 241.
Vascular plants, classification of (Berry), 330.
Vasectomized male mice as indicators (Little), 186.
VEBLEN, O. On the Deformation of an N-Cell, 654.
VICARI, E. M., see MacDowell, E. C., 577.
VINAL, G. W., see Rosa, E. B., 59.
Viscosity, laws of (Michelson), 319.
Volcanic islands, isostatic subsidence of (Davis), 649.
Voltameter, silver, for the measurement of electric current (Rosa and Vinal), 59.

WARNER, D. E., see Harris, J. A., 237.
WASHBURN, E. W. Two laws Governing the Ionization of Strong Electrolytes in Dilute Solutions and a New Rule for Determining Equivalent Conductance at Infinite Dilution Derived from Conductivity Measurements with Extremely Diluted Solutions of Potassium Chlorite, 569.
Water and dry matter in the leaves of corn and sorghums (Miller), 427.
Water in the deeper portions of the subsoil (Alway and McDole), 257.
Wave-lengths, standard international (St. John and Babcock), 505.
WEBSTER, D. L., and CLARK, H. The Intensities of X-rays of the L Series, 181.
Wehnelt cathodes, loss in energy of (Wilson), 426.
WHEELER, W. M. The Phylogenetic Development of Subapterous and Apterous Castes in the Formicidae, 109.
WHITE, H. S., see Cole, F. N., 197.
WILSON, W. The Loss in Energy of Wehnelt Cathodes by Electron Emission, 426.
Wind action in geology (Keyes), 33.

X-rays of the L series (Webster and Clark), 181.
X-ray spectra, Moseley's law (Uhler), 88.
X-rays, structure of chalcopyrite (Burdick and Ellis), 644.

Zea tunicata and zea ramosa, hybrids of (Collins), 345.
ZELENY, C. The Effect of Degree of Injury, Level of Cut and Time within the Regenerative Cycle upon the Rate of Regeneration, 211.
Zuñi chronology (Spier), 280.